FLIGHT

The AIRCRAFT ENGINEER & AIRSHIPS

First Aero Weekly in the World.

Founder and Editor: STANLEY SPOONER

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport

OFFICIAL ORGAN OF THE ROYAL AERO CLUB OF THE UNITED KINGDOM

No. 764. (No. 33, Vol. XV.) AUGUST 16, 1923 [Weekly, Price 6d. Post free, 7d.

Flight

The Aircraft Engineer and Airships

Editorial Offices: 36, GREAT QUEEN STREET, KINGSWAY, W.C. 2

Telegrams: Truditur, Westcent, London. Telephone: Gerrard 1828

Annual Subscription Rates, Post Free:

United Kingdom .. 30s. 4d. Abroad .. .. 33s. 0d.*

These rates are subject to any alteration found necessary under abnormal conditions and to increases in postage rates

* *European subscriptions must be remitted in British currency*

CONTENTS

	PAGE
Editorial Comment	
The Territorial Air Defence Brigades	487
The New Seaplane Service	488
The Gothenburg International Aero Exhibition	489
The Schneider Cup Race	495
Light 'Plane and Glider Notes	496
London Terminal Aerodrome	497
Supermarine Sea Eagle	498
Royal Air Force	499
R.A.F. Intelligence	499
R.A.F. Memorial Fund	499
Aircraft Bombing Trials Off Portsmouth	499
Society of Model Aeronautical Engineers	500

DIARY OF FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in the following list:—

Aug. 6–27	French Gliding Competition, near Cherbourg
Sept. 23....	Gordon Bennett Balloon Race, Belgium
Sept. 28....	Schneider Cup Seaplane Race at Cowes
Oct. 4	R.Ae.S. Inaugural Lecture
Oct. 8–13	Light 'Plane and Glider Competitions, Lympne
Oct. 14	Beaumont Cup Race at Istres, France
Oct. 18	"The Manœuvres of Inverted Flight," by Sq.-Leader R. M. Hill, before R.Ae.S.
Nov. 1	"Present Developments in Aircraft Instruments," by Major Wimperis, before R.Ae.S.
Nov. 15	"The Thermodynamics of Aircraft Engines," by Mr. H. R. Ricardo, before R.Ae.S.
Nov. 29	"Airmanship at Sea," by Sqd.-Ldr. Maycock
Dec. 1	Entries close for French Aero Engine Competition
Dec. 13	"Air Strategy," by Wing Cmdr. Edmonds
1924	
Jan. 10	"Materials from the Aeronautical Point of View," by Dr. Aitchison and Mr. North
Jan. 24	"Fabric and Dopes," by Dr. Ramsbottom
Feb. 7	(Subject to be announced later), by a Representative of the University of Tokio
Feb. 21	"Aerial Photography and Survey," by Mr. H. Hamshaw Thomas

EDITORIAL COMMENT.

THE first fortnight's training of our newly-formed Territorial Air Defence Brigades has now been concluded, and although, owing to the fact that these units were only formed in October of last year, none of them is up to full strength, the results obtained have been distinctly promising. The operations were carried out by the second and third Territorial Air Defence Brigades and by the first Air Defence Brigade of the Regular Army. Air co-operation was provided by units from the R.A.F. aerodrome at Bircham Newton, some five miles away from Holme-next-the-Sea. The practice included, apart from ordinary Army drill, aerial range finding, searchlight practice, with attendant sound location apparatus, and actual firing practice with special short-range shell. A certain amount of "shrieking" has been levelled at the slight "hitch" which occurred through the discovery that the Vickers "Vimy" bombers originally used for the practice could not attain a sufficient altitude to make them safe from the bursting shells. There is, nevertheless, nothing very wrong with the organisation, the tentative use of these old machines being a direct result of the economy campaign and "Geddes axe." Incidentally, it is worthy of note that the sections of the daily press which were loudest in their criticisms were the same that last year clamoured for economy. The fact of the matter is that immediately it was discovered that the machines originally used were not suitable, No. 7 Squadron, R.A.F., took over two D.H.9's, which were flown over from Cranwell, and these proved quite suitable for the work in hand.

The Territorial Defence Air Brigades

There is only one regret with regard to the Territorial Air Defence Brigades, and that is that, at present, the numbers are considerably short of the strength aimed at. This is not, perhaps, to be wondered at considering the relatively short time since the establishment of the service, but at the same time much might be done by vigorous propaganda work. These Territorial Air Defence Brigades should, once the nature of the service were clearly explained, provide quite an attraction to large numbers of "civilians"—Londoners and the beyond. Men with

keen brains and a mechanical turn of mind would find in them an opening for their particular "hobby," and we would suggest that much might be done to encourage recruiting by arranging for a series of "broadcast" lectures from "2 LO," setting forth clearly and simply the nature, advantages and attractiveness of the work, the periods of training, etc.

In this connection it might not be out of the way to refer to what has already been done by 53rd Anti-Aircraft Brigade of the Royal Garrison Artillery. Incidentally it might be mentioned that this Brigade so far is the strongest in the camp at Hunstanton, numbering approximately 200, against an establishment strength of 333. The 159th battery of this brigade was recruited to full strength in 10 days from firms connected with Lloyd's. The 157th battery is composed of members of the staff from Lloyd's Bank, and the 158th battery is recruited from marine insurance firms, each company providing a complete gun crew.

By way of conclusion at the end of the first fortnight's annual training, Colonel D. Howard Gill, C.M.G., D.S.O., has issued the following encouraging Brigade Order :—

"On the termination of the first fortnight of annual training the Brigade Commander desires to express his high appreciation of the excellent discipline, smart and soldierly bearing, and great keenness displayed by all ranks.

"There is no doubt that the satisfactory progress made in training during the last fortnight was mainly due to these qualities. The standard of drill and fire effect reached by the 51st (London) Anti-Aircraft Brigade, Royal Garrison Artillery, at this their first practice camp, is extremely promising, and the work of the instrumentalists is deserving of special praise.

"The searchlights were most successful in picking up and holding targets under service conditions, in spite of having had no previous facilities for practising on aeroplanes. This reflects great credit on the training of the 10th (London) Anti-Aircraft Battalion, Royal Engineers. The work of the 10th (London) Anti-Aircraft Signal Company, Royal Corps of Signals, has been arduous, and has been most efficiently and rapidly performed. The brigade at its present strength is little more than a nucleus, but it has already set a high standard, which it is hoped will be maintained as numbers increase."

• • •

The New Seaplane Service

On August 14 a trial flight was made by the new Supermarine flying boat "Sea Eagle" from Southampton to Cherbourg, Vauville and Guernsey. The flight was made partly to test the machine over the route on which this type will be used when the regular service commences operation in a fortnight's time and partly in order to convey the Director of Civil Aviation, Major-General Sir Sefton Brancker, to the glider and light 'plane meeting at Vauville. Sir Sefton is, naturally, a very busy man, and wherever possible he saves time by travelling by air. In this instance the saving is very considerable, the time taken by the Supermarine "Sea Eagle" being approximately one hour, as against the seven hours or so taken by the steamer. On the trial flight the machine was piloted by Capt. Biard, who carried as passengers Sir Sefton Brancker, Mr. Hubert Scott-Paine, Managing Director of the Supermarine Aviation Works, and members of Sir Sefton's staff at the Air Ministry.

When the new seaplane service comes into being it will provide a most useful full-scale experiment in a form of transportation that has never been given—in this country at least—the attention which it deserves.

The attitude of FLIGHT towards commercial seaplane lines is already well known. For years we have advocated the strongest development of such services, holding that a seaplane service should have very many advantages over corresponding land services. The main point in our argument is that the "ground" organisation should be less costly, an "aerodrome" being always present under the machine, and special customs and lighthouse facilities being unnecessary, those already in use in connection with seaborne traffic being quite sufficient for seaplane needs.

Moreover, and this is a fact which is, we are afraid, often lost sight of, the seaplane has only to compete with steamers doing, at a maximum, 20 knots or so, while in many cases the aeroplane must compete, in point of time, with express trains travelling at 60 m.p.h. Now, it is known that, if a cruising speed of 70 m.p.h. is sufficient over a given route, a very much greater useful load per horse-power can be carried than if the cruising speed has to be 100 to 110 m.p.h. Consequently the seaplane should, apart from savings effected in connection with ground organisation, in itself be capable of more economical operation, thus reducing the cost of air travel still further.

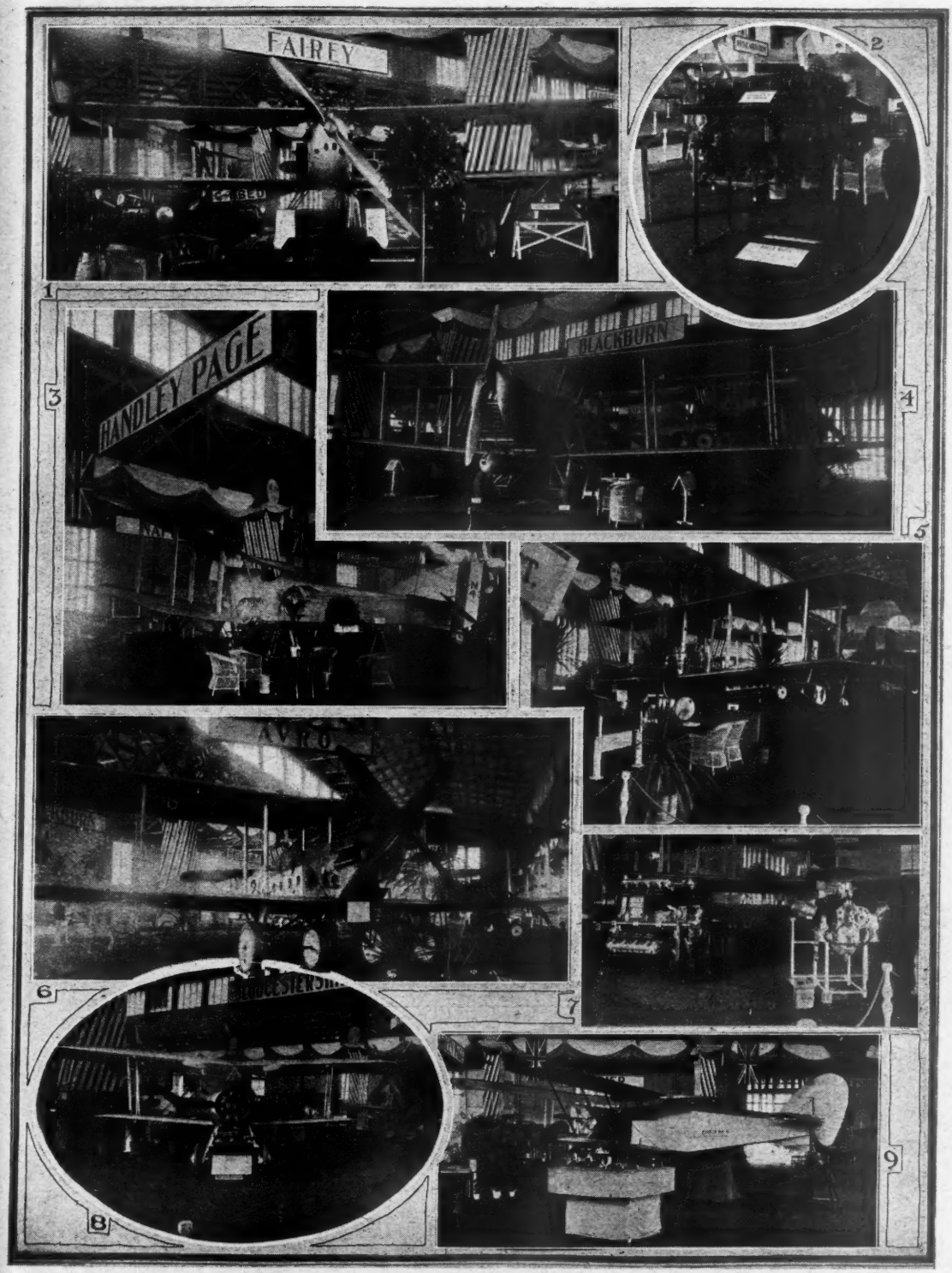
Another powerful argument in favour of the development of the commercial seaplane is that the sections of the British Empire are separated by leagues of ocean, over which the land machine could only fly by incurring a considerable risk, while the seaplane would be able to alight anywhere with reasonable safety.

Believing, as we do, in the future of the commercial seaplane, we are extremely pleased that the first regular seaplane service is about to be inaugurated immediately, and although it is, perhaps, open to doubt whether the Southampton-Cherbourg and Channel Islands route is the most ideal one, the experience gained over it cannot fail to provide some extremely useful information concerning the operation of such a service, which will be invaluable when, as we hope, other services are established to points farther afield. In the meantime, we wish those responsible for the first regular cross-Channel commercial seaplane service every success with their undertaking.

• • •

The Schneider Cup Race

The supplementary regulations for the Schneider Cup seaplane race have now been issued by the Royal Aero Club, and a *résumé* of them will be found on p. 495. It is gratifying to have it confirmed that there will be three British entries for this important event, and that thus it may be taken for granted that the French, American and Italian competitors will not have it all their own way. It is as yet too early to express an opinion of the three British defenders, but the names of the firms entering them are a guarantee that they will be worthy representatives. Thus once more British sporting effort has come forward in spite of lack of official encouragement, and whatever the fate of the defender machines may be, it should never be forgotten that they were built entirely by private means, in an effort to retain a trophy which is being fought for by heavily subsidised competitors from abroad. Thus, should fortune be kind and the trophy remain in this country, Britain will have reason to be proud. As three machines have been entered by France, three by America, and two by Italy, there should, barring accidents, be eleven machines in the actual competition, which should thus be well worth watching.



BRITAIN AT I.L.U.G.: This set of photographs, kindly supplied by the S.B.A.C., shows some of the British exhibits at the Gothenburg International Aero Exhibition, which has just closed. Unfortunately, photographs are not available of certain British exhibits, such as the Bristol Fighter, the Bristol and Armstrong-Siddeley engines, etc. 1. The Fairey III D, with Napier "Lion." 2. The Rolls-Royce 650 h.p. "Condor." 3. The Handley Page "Hanley," with Napier "Lion." 4. The Blackburn Torpedoplane, with Napier "Lion." 5. The Vickers "Viking," with Napier "Lion." 6. The Avro "Aldershot," with 1,000 h.p. Napier "Cub." 7. A Napier "Cub" and a Napier "Lion." 8. The Gloucestershire "Grouse," with B.R.2. 9. The Siddeley Siskin Mark II, with Siddeley "Jaguar."

GOTHENBURG International AERO EXHIBITION 1923

BY THE TECHNICAL EDITOR

(*Continued from p.* 484.)

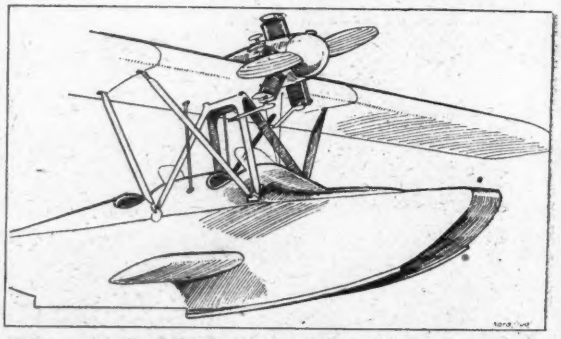
Nordflug Werke, Teltow, Berlin.—This firm exhibited a small school type monoplane flying boat. We remarked in a previous article that the finish of this machine was not very good, and have since learned that this was due to a strike, which all but prevented the machine being finished at all. The Nordflug type F.B.1 was designed by Herr Ing. E. B. Harder, and the hull form was chosen after extensive tests in the tank at the Preussischen Versuchsanstalt für Wasserbau und Schiffbau, under the direction of Dr. Ing. K. Schaffran. There are two steps, but the hull is remarkable for having a concave bottom in front of the main step. This is unsual in two-stepped hulls, although used almost universally on the Italian one-stepped hulls.

The boat hull is built of three-ply wood, and altogether but a minimum of metal parts is used in the construction. The Nordflug F.B.1 resembles somewhat the Dornier "Libelle," and it is worthy of note that lateral stability on the water is obtained in the same manner by "wing roots" growing out of the sides of the boat.

The monoplane wing is in three sections, of which the centre section is an integral part of, and remains in place on, the rest of the structure. This section is braced by steel tubes, but the end sections are cantilevers. The ailerons are unusual in that they are not formed of the trailing edge, but of the extreme wing tips, as in the very early French Goupy machines. Whether or not this form will prove effective is a matter of speculation, although it is stated that on a previous type they were found to work very well.

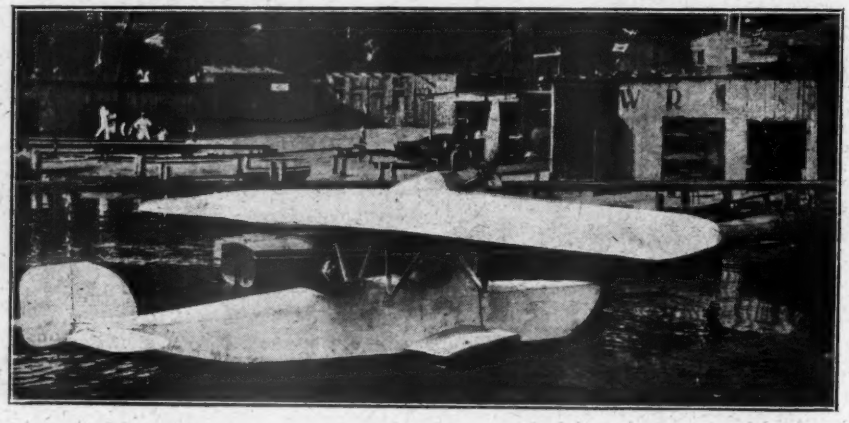
The five-cylinder 60 h.p. Siemens engine is mounted above, and slightly ahead of, the leading edge of the wing, and the petrol tank is carried in the cowling behind the engine. The latter is neatly covered in, and faired into the centre-section. Seating accommodation is provided for two people in separate cockpits, one behind the other. Normally the pilot occupies the rear seat, and the pupil, or passenger, as the case may be, the front seat, which is on the centre of gravity of the machine, so that the presence or absence of a passenger does not alter the trim of the machine.

Following is a brief specification of the Nordflug Werke type

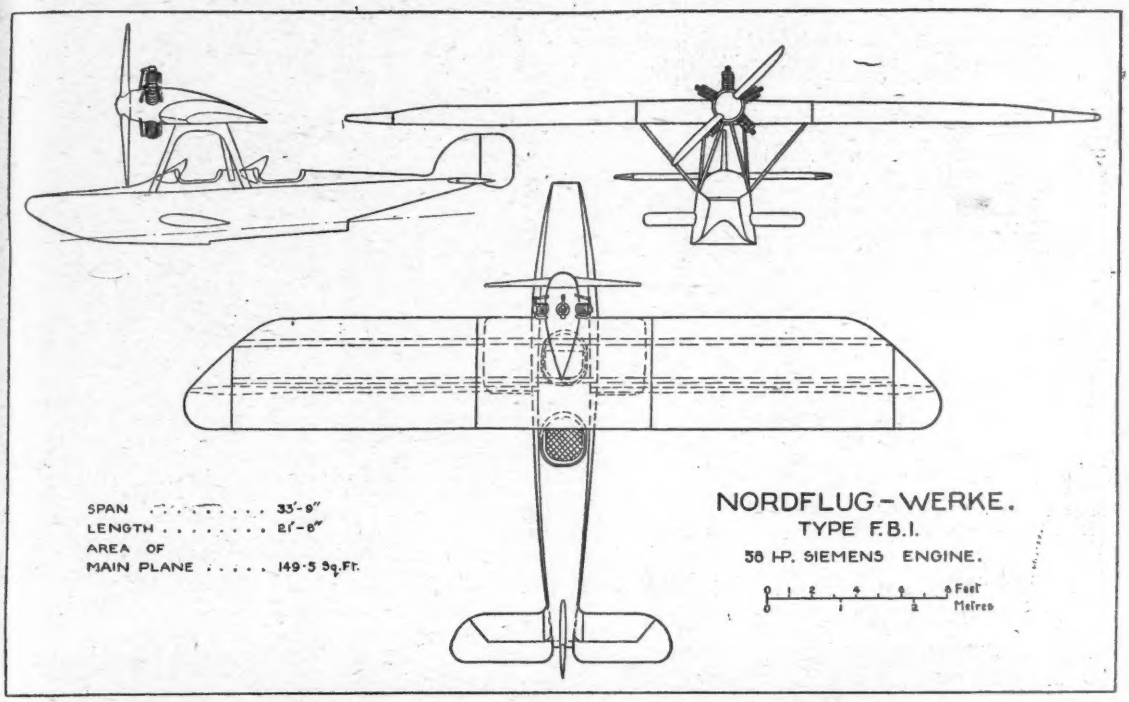


THE NORDFLUG TYPE F.B.1: Owing to a strike this machine was finished only under great difficulties, which explains the somewhat inferior finish.

F.B.1: Length, o.a., 6.8 m. (20 ft. 4 ins.); span, 10.3 m. (33 ft. 9 ins.); weight empty, 310 kgs. (672 lbs.); useful load, 250 kgs. (550 lbs.), corresponding to pilot, passenger, fuel for three hours (110 lbs.), and 110 lbs. of luggage or freight; total loaded weight, 560 kgs. (1,222 lbs.); speed, 140 kms. (87 m.p.h.); ceiling, 3,200 m. (10,500 ft.).



THE NORDFLUG FLYING BOAT: Note the wing-tip ailerons.



THE NORDFLUG TYPE F.B.1 : General arrangement drawings, to scale.

The *Stahlwerk Mark, Abt. Breslau*, were to have exhibited two types, the R.III and the R.IV, but up to the time of our leaving Gothenburg only the smaller machine the R.III, had turned up. The letter R, it might be mentioned, stands for Rieseler, the designer of the machines. On the first day of the exhibition no less than three R.III's were to be seen on the stand, but later one of these disappeared, leaving two on the Stahlwerk stand, one in flying trim and the other with its wings folded. On p. 497 is published a photograph of an R.III which landed recently in front of the Opera House, Unter den Linden, Berlin.

The Mark sporting single-seater R.III is of the parasol monoplane type, and of composite construction. The fuselage is built entirely of steel tubes, welded together as in the Fokkers, and braced by piano wire. The wing, on the other hand, has wooden spars and ribs of usual form, and is, like the fuselage, covered with fabric. The front portion of the body is, however, covered with aluminium.

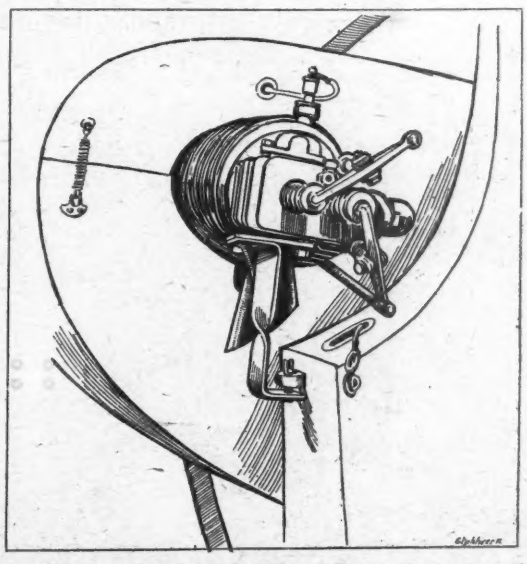
The monoplane wing is built in two sections, to facilitate dismantling and transport. The wing ends attach to a cabane formed by inverted Vee steel tube struts, quick-release fittings being used. On each side are a pair of streamline steel tube lift struts, which complete the wing structure. The strut attachments are also of the quick-release type, and the wings can be taken off and strapped in place on the sides of the fuselage for transport in a few minutes.

The manner of carrying the wings when folded is unusual. Each of the two cylinders of the 30 h.p. Haacke engine is provided with a piece of flat strip steel shaped to engage, by means of a bolt, with the fitting on the inner end of the rear spar. The outer ends of the wings, which point aft when folded, are supported by a strap of webbing passed around the rear portion of the fuselage.

The two-cylinder Haacke engine is so mounted that it can be removed from the machine in about 15 minutes. The petrol tank was originally placed under the wing, so as to obtain the advantage of gravity feed, but as this rather interfered with the ease of erecting and dismantling the tank is now placed in the fuselage. If desired tanks giving 10 hours' duration can be fitted.

It is of interest to note that we have been informed, by an English pilot who has been permitted to fly one of these machines, and who has no interest in or connection with the makers, but who judges the machine simply as one of the many aeroplanes which he has flown, that the R.III handles remarkably well in the air, is easy to fly, quick on the controls, and yet not at all "tricky." In Germany, we believe, these machines have established quite a reputation, and already a considerable number have been built, the type R.III having been put into quantity production.

Following are the main characteristics of the Stahlwerk Rieseler R.III: Engine, 30 h.p. two-cylinder, opposed air-cooled Haacke; length, o.a., 5 m. (16 ft. 5 ins.); span, 7.3 m. (24 ft.); wing area, 10 sq. m. (107.6 sq. ft.); weight empty, 200 kgs. (440 lbs.). In addition to the pilot and 55 lbs. of fuel, the machine will carry a useful load of about 50 kgs. (110 lbs.). The maximum speed is about 100 kms. (62 m.p.h.), and the landing speed is stated to be 40 kms. (25 m.p.h.). As the wing loading is just over 7 lbs./sq. ft. the figure for



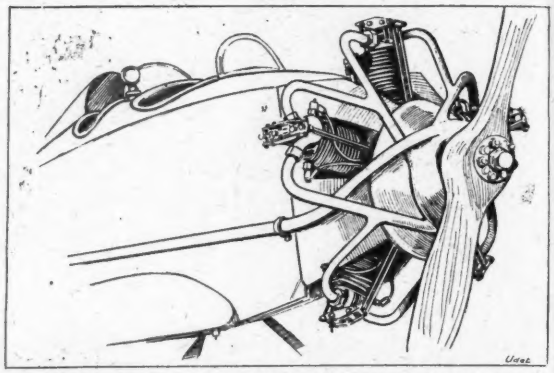
How the planes are carried when folded on the Stahlwerk Rieseler type R.III. It scarcely seems fair to the engine to sling the weight of a wing from the outer end of a cylinder.

landing speed seems optimistic. When folded the machine can be, and in fact has been, transported along a road towed behind a motor-cycle, with the tail skid resting on the carrier.

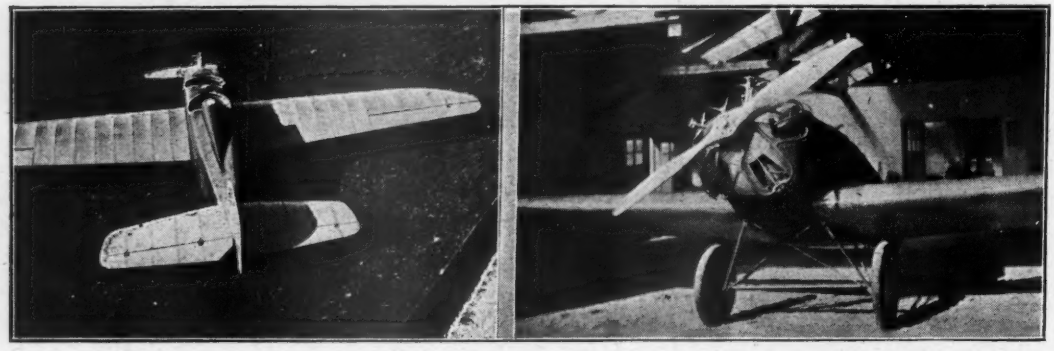
Udet Flugzeugbau, Munich.—In our issue of July 13, 1922, we published an illustrated description of the Udet single-seater monoplane, the first type to be produced by the Udet Flugzeugbau of Munich-Ramersdorf. On March 1, 1923, an article was published, with scale drawings and photographs, dealing with the Udet two-seater. Thus we can claim to have kept our readers well informed regarding the productions of this comparatively young German aircraft firm. At Gothenburg Udet was represented, on the stand of Bäumer Aero G.M.B.H., by a new two-seater monoplane, which may be said to be a direct descendant of the two types previously described, inasmuch as most of the general features of the earlier machines have been retained in the latest type. The main modification is found in the type and power of the engine fitted. Whereas the single-seater and earlier two-seater had flat twin Haacke engines of about 30 h.p., the latest machine, exhibited at I.L.U.G., is fitted with a five-cylinder Siemens radial air-cooled of 60 h.p.

From the accompanying illustrations it will be seen that the new Udet two-seater monoplane is of rather more pleasing appearance than was the older type. The long, straight lines and small radii of wing and control surfaces have been replaced by shorter straight lines and larger radii, with the result that the lines look better, quite apart from the fact that they probably are better aerodynamically. Another change which helps to improve the appearance is that the two occupants are now installed in two separate cockpits in place of the large common cockpit of the previous type.

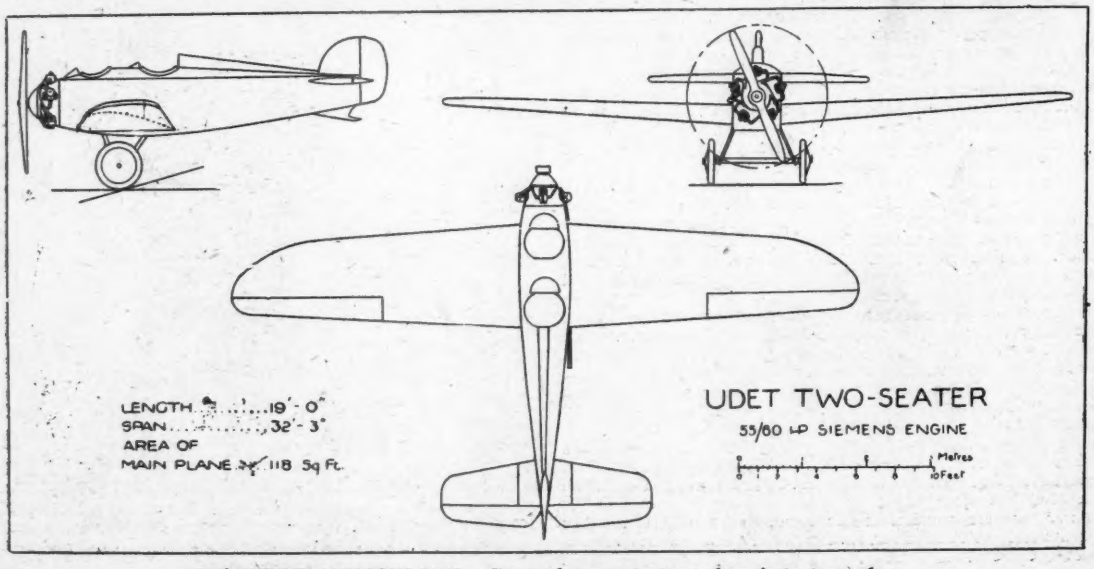
Constructionally the new Udet follows the methods already established. The fuselage is ply-wood covered over a light wooden framework, and the wing has two box spars of large dimensions (the wing being fairly thick in proportion to the chord). Although the monoplane wing possesses a large dihedral angle, it is built in one piece, the spars resting in notches cut in the lower part of the fuselage, and located by



ON THE UDET MONOPLANE : This sketch shows the unusual exhaust collector ring into which the gases are passed tangentially, and from which they emerge in the same manner, through a single long exhaust pipe on the starboard side.



THE UDET MONOPLANE : On the left, a view from above, and on the right a front view showing the low wing position.



THE UDET MONOPLANE : General arrangement drawings to scale.

four bolts. In order to remove the wing, the machine is placed on trestles, and the rear undercarriage struts are cast off—quick-release attachments being provided—when the wing bolts can be undone and the wing dropped out of its notches.

The Siemens radial engine is neatly cowled-in, and a somewhat elaborate arrangement has been adopted for the exhaust collector ring. As the accompanying sketch shows, the exhaust pipes (there is but one exhaust valve per cylinder, although the valve cage is fitted with two ports) are welded up into the form of a letter Y, the foot of the letter being taken into the exhaust collector ring tangentially. A single long exhaust pipe on the starboard side carries the gases back clear of the pilot. The object of the arrangement evidently is to give the exhaust gases a circular movement inside the collector, from which they are then flung off tangentially through the pipe. Whether or not the arrangement does in fact produce this result we do not know. As a piece of welding the apparatus must be somewhat tricky, although the Germans are, of course, experts where oxy-acetylene welding is concerned. Whatever the effect on the engine of this exhaust arrangement, there is little doubt that it does keep the machine clean, and in this respect the Udet must be in marked contrast to the majority of the other German machines exhibited, which have in most cases merely short exhaust pipes, a few inches long, from each cylinder, and must necessarily throw back a lot of dirty oil on to the machine and occupants.

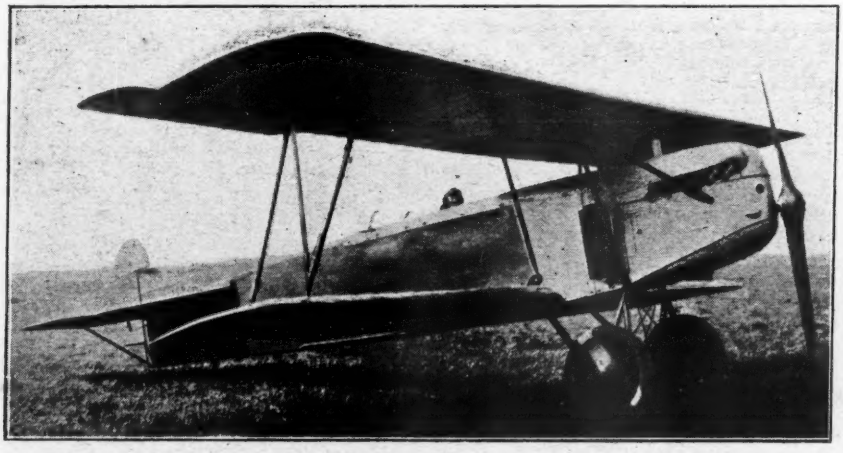
The undercarriage, as in previous Udet machines, is fairly high so as to give a large angle of incidence when the machine is standing on the ground, thus giving a quick pull-up on landing. This precaution is probably necessary on account of the high wing loading employed (9.8 lbs. per sq. ft.), which seems unnecessarily heavy for a sporting type of machine.

The Udet 1923 type monoplane two-seater has an overall length of 5.9 m. (19 ft. 4 ins.), a span of 9.8 m. (32 ft. 1 in.), and a height over fuselage fairing of 1.95 m. (6 ft. 5 ins.). The wing area is approximately 118 sq. ft., including ailerons. The empty weight of the machine is 300 kgs. (660 lbs.) and the permissible useful load is 225 kgs. (500 lbs.), giving a total loaded weight of 525 kgs. (1,160 lbs.). The speed is stated to be 150 kms. (93 m.p.h.). Sufficient fuel can be carried for a duration of five hours' flying.

The Dutch Section

HOLLAND was represented at I.L.U.G. by one firm only, the *N.V. Nederlandsche Vliegtuigenfabrieh of Amsterdam.* In addition to two complete aeroplanes and the all-Duralumin hull of a new Fokker flying boat, a number of scale models of the long series of Fokker machines produced during recent years were exhibited. Some of these models represented types to which we hope to make detailed reference at a future date. At present we must confine ourselves to the two types exhibited full scale.

The Fokker C.IV is a two-seater fighter and reconnaissance biplane, fitted with either a 450 h.p. Napier "Lion" or a 400 h.p. Liberty. As exhibited at I.L.U.G. the C.IV was fitted with the Liberty engine. The machine, which follows usual Fokker practice, is chiefly remarkable foi the fact that, in spite of its considerable size, it is a cantilever biplane with no lift and anti-lift bracing, but with a pair of "N" interplane struts used principally to stiffen the wings against torsion. The main advantage of the cantilever biplane arrangement in this particular type would seem to be that it is possible to give the wings a pronounced stagger, thus improving the view. In a biplane whose wings depended upon external bracing, the introduction of the same amount of stagger would probably involve quite considerable structural difficulties. That the cantilever wings must necessarily be heavier than those with external bracing will be realised when it is remembered that what has, in effect, been done in the cantilever wing is to reduce the spacing from something like one chord length to the thickness of the section used, *i.e.*, in the neighbourhood of one-tenth chord length. Nevertheless, Mijnheer Fokker would scarcely retain the cantilever without good and sufficient reason, and the main reason, it appears to us, must have been that he wished to incorporate a large stagger.



The Fokker C.IV: Three - quarter front view.

Structurally the Fokker C.IV follows usual Fokker practice. That is to say, the fuselage is of the well-known Fokker type of tubular welded construction. In this country we do not

The Fokker C.IV: Three - quarter rear view.

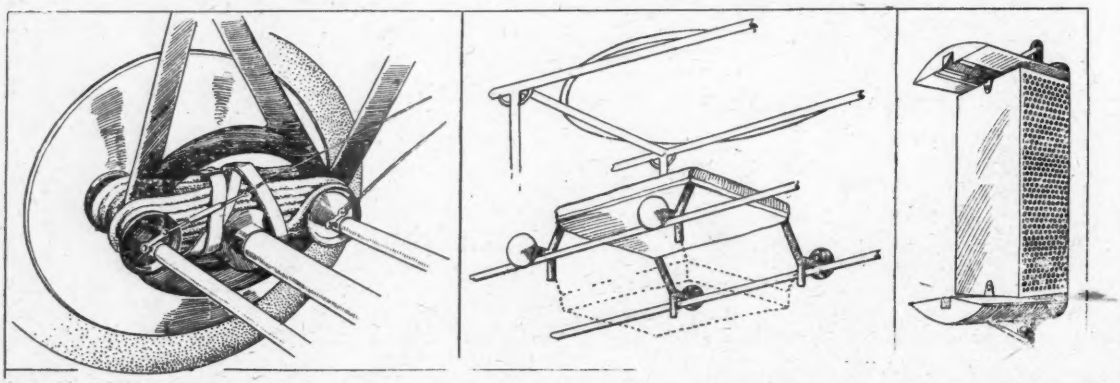
The Fokker D.XI, with 300 h.p. Hispano - Suiza : This machine is a single - seater fighter, with a very small lower plane.

allow welding to be used at any point where a great stress is likely to occur, but Fokker has now for many years employed the welded tube structure for his fuselages, and he has a perfectly good reply to all criticisms of the method by pointing out that there has never yet been an instance of failure. Not only so, but in a crash this form of construction may result in bent and damaged tubes, but there is no splintering. In the C.IV the covering of the front portion of the fuselage is aluminium, extending aft to the pilot's cockpit. From there to behind the gunner's cockpit the covering may be three-ply or armour plate, according to the wishes of the purchaser. The rear portion of the fuselage is fabric covered.

The Liberty engine is mounted on a tubular framework, and is entirely cowled-in, the sections of the cowl being, however, easily detachable. The petrol tank is mounted just aft of the easily accessible when the gunner's seat is in a forward position. The control stick is normally carried in clips in the gunner's cockpit.

The wings of the C.IV are of usual Fokker construction, *i.e.*, having box spars of ample dimensions and ply-wood ribs with split flanges. The covering is fabric. The front spar of the top plane is supported from the fuselage by a " tripod " strut, the rear spar having a single strut with terminal adjustment for incidence. The lower plane is attached to the fuselage, and, as already stated, a pair of steel tube struts of N formation separate the top and bottom planes on each side.

The outline specification of the Fokker C.IV is as follows : Length, o.a., 9.1 m. (29 ft. 11 ins.) ; span, 12.55 m. (41 ft. 2 ins.) ; wing area, 38.2 sq. m. (410 sq. ft.) ; weight empty, 1,300 kgs. (2,860 lbs.) ; useful load, 700 kgs. (1,540 lbs.) ;



FOKKER AT GOTHENBURG : On the left, a portion of the new Fokker undercarriage, in which the axle is free to travel laterally to a certain extent. This feature is stated to effect a great saving of tyres. In the centre the gunner's seat in the Fokker C.IV. The seat can be shifted fore and aft on the longitudinal tubes, and by reversing it, as shown by dotted lines, the seat is lowered so as to bring the gunner's head below deck. On the right is shown the mounting of the radiator, which can be withdrawn entirely into the fuselage.

engine, force feed being employed. The side radiators are mounted in a novel way, as indicated in one of our sketches. Above and below the radiator are cantilever supports of approximately semi-circular section, having on their flat faces grooves acting as guides for the radiators. By a simple system of crank levers the radiators can be drawn into the fuselage when the machine reaches a certain altitude. The water connections are by long stout rubber tubes, so arranged that the travel of the radiators does not tend greatly to bend the tubes, which should, therefore, last as long as if the radiators were fixed.

The gunner's cockpit is exceptionally roomy, leaving ample space for photographic apparatus, wireless, guns, etc. The seat is mounted on rollers running on longitudinal rails, and the " legs " of the seat are so arranged that by turning the seat upside down the gunner obtains a very low position, in which he can sit down in comfort right inside for studying maps out of the draught. If he wishes to use his guns, all he has to do is to stand up, when he can push the seat right out of his way and use his guns quite unhampered. Dual controls are provided, the gunner's pedals being mounted one on each side of the pilot's seat, where they are out of the way, although with Napier " Lion " engine the speed is stated to be 245 km. (152 m.p.h.) ; climb to 1,000 m. (3,300 ft.) in 2.5 mins., to 2,500 m. (8,200 ft.) in 6 mins.

Developed from the famous Fokker D.VII, although a much smaller machine, the new Fokker D.XI, exhibited at Gothenburg, is chiefly remarkable for the very small bottom plane which, the designer claims, not only gives an exceptionally good view, but which also combines the aerodynamic efficiency of the parasol monoplane with the rigidity of the biplane. The lower plane, in the D.XI, is quite small, and is heavily staggered in relation to the top plane, to which it is braced by a single pair of V struts on each side. On the machine exhibited it was not possible to ascertain the exact spar arrangement of the lower plane, but it appears probable that the spars are arranged in the form of a V, coming to a point at the lower wing tip. In that case the V interplane strut would seem to be satisfactory. Both upper and lower planes of the D.XI are covered with ply-wood, as in the well-known Fokker commercial monoplanes. The fuselage, on the other hand, is built of welded steel tubing and is fabric covered.

The Fokker D.XI can be fitted with either 300 h.p. Hispano-Suiza or 375 h.p. Curtiss engine. Side radiators similar to

those on the C.IV are fitted, and the same gear is used for drawing them into the fuselage. In general construction the D.XI follows usual Fokker practice, but an innovation has been made in the steel tube undercarriage, in which the axle is so mounted (see sketch) that it can move not only up and down but also fore and aft and laterally to a certain extent. This arrangement, it is claimed, will save ripping off a tyre when landing with a certain amount of side drift.

Following is a brief specification of the Fokker D.XI. Length, o.a., 7.2 m. (23 ft. 7 ins.); span, 11.5 m. (37 ft. 9 ins.). The machine is supplied with wings of different areas, ranging from 18 sq. m. (194 sq. ft.) to 24 sq. m. (258 sq. ft.). According to the size of wings fitted, the useful load varies from 250 kgs. (550 lbs.) to 400 kgs. (880 lbs.). The speed varies, according to engine and wings fitted, from 240 km. (149 m.p.h.) to 260 km. (161 m.p.h.). The climb is given as 5,000 m. (16,400 ft.) in 12 minutes, but it is not stated with what size wings this figure is attained.

The all-Duralumin boat hull exhibited was, in a general way, similar to that of the Fokker Amphibian described in FLIGHT during the latter part of 1922, with the exception that it was for a pure flying boat, and not an amphibian.

(To be continued.)

The Gothenburg Competitions

THERE is still relatively little reliable information available concerning the flying competitions held at Gothenburg during the last week of the exhibition. In the Rotterdam-Gothenburg "Arrival" Competition the position is slightly different from that indicated by the order of arrival of the competitors (as we foreshadowed last week that it might be). The proper order should be: 1, Soederberg; 2, Grase; 3, Zimmermann; 4, Cobham; 5, Hemming; 6, Thiedemann; 7, Bird.

In the competition for commercial aircraft, first prize of 15,000 kronor (£880) and the gold cup, presented by the Crown Prince of Sweden, were won by Alan Cobham on the D.H.50, with 240 h.p. Siddeley "Puma" engine, described in detail in FLIGHT last week. As this is a new type, only just produced, the success is all the more remarkable, and reflects the greatest credit on the designers. Cobham attained 999 points out of a possible 1,000, out of which 200 were awarded for fuel economy, 350 for regularity of flying, 250 for speed, and 200 for construction and special properties. It will be interesting to learn how Cobham lost his one and only point. In the altitude competition Capt. Macmillan, on a Bristol Fighter, reached a height of 26,000 ft., but had to discontinue owing to the failure of his oxygen apparatus.

SCHNEIDER INTERNATIONAL SEAPLANE RACE

SUPPLEMENTARY regulations for this race, which is under the regulation of the F.A.I., have now been issued by the Royal Aero Club.

Navigability and watertightness tests will be held at Cowes, Isle of Wight, on September 27, and the speed race itself will be held on September 28. Three British entries have been received, and there promises to be a keen competition for the cup.

British Entries.—Blackburn Aeroplane and Motor Company, Ltd.

H. G. Hawker Engineering Company, Ltd.

Supermarine Aviation Works, Ltd.

France.—Three competitors.

America.—Three competitors.

Italy.—Two competitors.

The competitors representing each country will be started together.

The intervals between the start of each country will be 15 minutes.

The following will be the order of the start: Italy, America, Great Britain, France.

Machines will be accommodated at S. E. Saunders, Ltd., Cowes, as from September 20, and competing craft, fully erected, must be submitted to the Commissaires Sportifs at these sheds not later than 10 a.m. on September 26, when the 5,000 francs deposit will be returned to machines thus submitted. Stamping of parts will also be carried through on September 26.

Competitors must comply with the Air Navigation Regulations in force.

Competitors must communicate their Registration Marks to the Royal Aero Club, 3, Clifford Street, London, W. 1, not later than September 1, 1923, and the names of pilots and reserve pilots must also be sent to the Club by the same date.

Navigability and Watertightness Test

This test will take place on Thursday, September 27, 1923. The time of starting will be announced later.

The course will be a circuit of at least 5 nautical miles, and will be announced to the competitors the day before the test takes place. The order of starting will be decided by lot.

For this test competitors must taxi over the starting line, then rise and continue the course, during which they must taxi over two distances of ½ a nautical mile at a minimum speed of 12 nautical miles per hour, the limits of each of these distances being indicated by two buoys. The remainder of the course will be covered in flight. Competitors must, however, alight again before completing the course and taxi over the finishing line.

The Commissaires Sportifs may allow a competitor who has not been successful in this test to make a second attempt, which shall be final, after all competitors have had a first attempt.

After having taxied over the finishing line the machine must be moored immediately to a buoy allotted beforehand, where it must remain afloat for a period of six hours without anyone on board. Any machine leaving its mooring during this period of six hours will be disqualified.

No repairs will be allowed during the navigability and watertightness test.

Except for changing the propeller, which is allowed, the machine must not undergo any modification between the above test and the speed contest. It will be stamped to ensure this.

The Controls will be closed at 7 p.m.

Speed Contest

The speed contest will take place on Friday, September 28, 1923. The time of starting will be announced later.

The circuit is 37.2 nautical miles, and must be covered five times. The total distance is 186 nautical miles.

The start will be made from Cowes, and the turning points are as follows: Selsey (18.52 nautical miles), Southsea (10.23 nautical miles), Cowes (8.45 nautical miles). Full details of each turning point will be announced later.

The starting line must be crossed on the water at the start, and the finishing line must be crossed in flight.

The competitors representing each country will be started together. The order of starting of the various countries will be decided by lot. The interval between the start of each country will be 15 minutes.

A special area immediately behind the starting line will be reserved for competitors 10 minutes prior to the official starting time of their country. The front of the reserved area will be the starting line.

Competitors are not allowed to leave the water until after crossing the starting line. Competitors infringing this regulation will be disqualified.

One minute before the official starting time of each country warning signals will be given as follows:—

A cone will be hoisted to the top of the mast of the Official Boat, and simultaneously a smoke burst will be fired from the Official Boat. These are the only warning signals that will be given prior to the starting signal.

The starting signal will be the lowering of the cone on the mast of the Official Boat, and simultaneously a smoke burst will be fired from the Official Boat. Any competitor crossing the starting line before the starting signal is given will be disqualified.

Competitors will be timed from the starting signal of their country.

Competitors are at liberty to have the assistance of motor or rowing boats during the 10 minutes prior to the start whilst in the reserved area, but all such boats must leave the reserved area immediately after the starting signal. No sinkers, buoys, sea anchors or any similar devices may be used either by the competitors or their attendant craft.

Alightings during the speed contest are allowed.

Repairs are permitted, but must be carried out by the crew on the water by means of what is on board without receiving any outside assistance. The machine may, however, anchor, moor or manœuvre under its own power, but must not be beached.

Fuel replenishments are not allowed, except from stores carried on board.

On completing the course Competitors must submit their machines to the Commissaires Sportifs in the sheds at S. E. Saunders, Ltd., Cowes, for the checking of the stampings, and any other procedure considered necessary by the Commissaires Sportifs in order to ensure the carrying out of the general conditions for 1923.

The Controls will be closed at 7 p.m.

The general regulations include the usual clauses, and provide for the marking of the machines.

LIGHT 'PLANE AND GLIDER NOTES

Those wishing to get in touch with others interested in matters relating to gliding and the construction of gliders are invited to write to the Editor of FLIGHT, *who will be pleased to publish such communications on this page, in order to bring together those who would like to co-operate, either in forming gliding clubs or in private collaboration.*

CONSIDERABLE progress is now being made with the construction of light 'planes for the Sutherland, *Daily Mail*, Abdulla and other competitions to be held at Lympne in October. At the Addlestone works of the Air Navigation Company the first of the small monoplanes designed by Mr. Shackleton is finished, and will probably be tested shortly. This machine, it will be remembered, was described in FLIGHT on March 29, 1923, and has a Blackburne 700 c.c. V-twin engine.

* * *

THE first of the Gnosspelius "Gulls," also with Blackburne engine, has already made a number of flights, as our readers are aware, and at least one more of these machines will be built for the competitions. The "Gull," it should be remembered, is now being built and marketed by Short Brothers of Rochester, to whom application should be made for machines for the competitions.

* * *

WORK has already commenced on the de Havilland light 'plane, although somewhat delayed by pressure in other directions. The D.H. light 'plane will, however, be out in about a month's time. It will be a monoplane with the wing placed low, and will be fitted with a Douglas engine.

* * *

MR. REX PIERSON of Vickers has designed a light biplane for the competition, and this machine also is expected to be out within the next few weeks. Like the de Havilland, the Vickers will also be fitted with a Douglas engine.

* * *

AT the Hamble works of A. V. Roe and Co. two light 'planes are being built. One of these is a biplane and the other a monoplane. It is understood that the monoplane has been designed by "A. V." himself, while for the biplane Roy Chadwick, chief designer of Avros, is responsible.

* * *

AT least two of the "Wrens" designed by Mr. W. O. Manning, and built by the English Electric Company, Ltd., of Preston, Lancashire, will be entered for the October competitions. They will be almost identical with the original "Wren" except for minor alterations. One of them will be piloted by Squadron-Leader Wright, who put the first "Wren" through its tests, and the other by Flight-Lieut. Longton, so that the machines should not be among the worst handled at Lympne, both men being pilots of more than average skill.

* * *

AT the French light 'plane and glider meeting at Vauville it does not appear that much has been done so far. For one thing, the wind in that locality has been in the wrong quarter for gliding, *i.e.*, from the east, instead of, as is more usual at this time of the year, from the south-west. A certain number of trial flights have been made, both on gliders and on light 'planes, but up to the time of going to press no very notable results have been attained

* * *

ON August 3 Descamps flew one of the Dewoitine light 'planes from Villacoublay to Vauville, his total flying time being 7 hours 20 mins. on account of the strong head wind blowing. The engine fitted to this machine is a Vaslin of 12-15 h.p. (No wonder it runs smoothly !)

* * *

ALTHOUGH at the time of writing comparatively few machines have actually put in an appearance at Vauville, the number entered gives one hope that before the meeting closes (August 26) a considerably larger percentage will turn up. Altogether 56 machines have been entered, and their main dimensions, etc., are shown in the accompanying table.

* * *

IT will be seen that out of the 56 machines 29 are gliders pure and simple; 3 are "aviettes," or man-powered machines, while 24 are light 'planes.

IT is unfortunate that Britain is represented by but a single machine, the biplane designed and built by the Royal Aircraft Establishment Aero Club of Farnborough. This machine, which will probably be entered for the British competitions also, is fitted with a Douglas flat twin engine.

* * *

No. 7, entered by M. Victor Simonet, is the Belgian Poncelet light 'plane illustrated in FLIGHT recently, while No. 9 is the Julien monoplane, also Belgian.

Table of Characteristics of Machines entered for Vauville Experiments

No.	Entrant.	Pilot.	Type.	Engine.	Area.	Weight, empty.
				h.p.	sq. ft.	lbs.
1	E.Nessler ..	E. Nessler ..	B	6	205	154
2	J. Galland ..	J. Galland ..	M	0	200	275
3	Soc. L'Icare ..	F. Vedrines ..	—	0		
4	Ch. Marais ..	Ch. Marais ..	M	7	145	330
5	H. Grandin ..		M	0	172	100
6	J. Pimoule ..	J. Pimoule ..		0	129	92
7	V. Simonet ..	V. Simonet ..	M	8-10	215	340
8	L. Breguet ..		M	12-15	162	242
9	S.A.B.C.A. ..	V. Simonet ..	M	10	215	375
10	A. Thomas ..		M	0	226	200
11	R. Ferber ..	R. Ferber ..	B	8-12	323	200
12	P. Garrouste ..	P. Garrouste ..	A	0	172	88
13	Soc. Simplex ..	Goegel ..	M	15	215	400
14	Soc. Simplex ..	Carmier ..	M	0	215	
15	E. Dewoitine ..	Barbot	M	0		
16	E. Dewoitine ..	Bastide	M	0		
17	E. Dewoitine ..	Descamps	M	0		
18	E. Dewoitine ..	Barbot	M			
19	E. Dewoitine ..	Doret	M			
20	P. Bourieau ..	P. Bourieau ..	M	0	162	165
21	P. Hees	P. Hees ..	M	12	162	*110
22	M. Rousset ..	M. Rousset ..	M	0	172	143
23	L. Lefort ..	L. Lefort ..	T	0	226	220
24	G. Desgrands-champs	Richard ..	M	10		440
25	Quemin-Vaucamps	Quemin ..	B	6	205	400
26	A. E. Pavin ..		M	10	140	207
27	T. H. Rillet ..	T. H. Rillet ..	M	0	226	350
28	Leguay	Fresne	S	0	162	132
29	P. O. Detable ..		M	0	215	
30	P. O. Detable ..		M	0	270	
31	Max Massy ..	Max Massy ..	AB	0	215	66
32	L. Peyret ..	A. Maneyrol ..	M	8-15	162	310
33	L. Peyret ..	A. Maneyrol ..	TM	0	157	155
34	R. Bardin ..		M	12	226	400
35	A. Duchereux ..	A. Duchereux	M	0	194	200
36	H. & M. Farman	Bossoutrot	M			
37	H. & M. Farman	Coupet	M			
38	Helen-Herremans	Helen-Herremans		0	388	660
39	G. Sablier ..		M	0	118	77
40	H. Mignet ..	H. Mignet ..	M	0	107	46
41	R.A.E. Aero Club	Bulman ..	B	3.5	250	310
42	Ch. Tomasini ..		B	0	226	240
43	Rossier & Vaillant		M	10	107	175
44	Fornier & Vaillant		M	10	86	175
45	L. Clement ..			0		
46	L. Clement ..			0		
47	P. Bonnet ..	Hemmerdinger	M	0	105	88
48	G. Sablier ..		B	0	204	40
49	P. Vial	P. Vial ..	M	0	167	170
50	Landes-Derouin	R. Landes ..	M	0	194	110
51	Sette Weeks ..		M	3		
52	D. Montagne ..	..	M	0	130	88
53	L. de Monge ..		M	35 (2)	259	770
54	Durand		S	0	194	130
55	J. Rocard ..		M	0	129	130
56	De Saint-Aubin	De Saint-Aubin	M	0	194	220

A = Aviette. B = Biplane. M = Monoplane.
T = Triplane. TM = Tandem Monoplane. S = Sesquiplan.

* Without engine.

In the above table, the machines which have the engine column marked 0 are pure gliders.

FLIGHT

LONDON TERMINAL AERODROME

Monday evening, August 6, 1923

LITTLE doubt can now be felt even by the most pessimistic that air transport has become a recognised form of travel and has taken its place in the ordinary scheme of daily life. So great has been the traffic in the past month that there have been not nearly enough machines to deal with it, and the short-sighted policy either of the Air Ministry or of the firms themselves—it is difficult to say which of the two groups is the more to blame—is being felt acutely now that the turning-down of passengers has become a daily occurrence on all lines.

Handley Page Transport have some remarkable figures for July. They carried 1,200 passengers in 118 flights, while for the corresponding month last year there were five companies operating on this route, and in 434 flights the whole of the five companies only carried 1,271 passengers, or 71 more than Handley Page alone have carried this year. The holiday traffic has broken all records, and Handley Page again in the first four days of August have carried 250 passengers.

All other lines have been doing business on a similar scale, and the Daimler Airway have been compelled to suspend their London-Manchester service over the holidays in order to cope with the rush of traffic to Berlin and Amsterdam, while the Instone Air Line have been taxed to the uttermost to carry the passengers wishing to fly to Cologne and Brussels.

The goods traffic to and from Cologne continues to grow apace, and after the first two or three consignments of tobacco which were flown to Cologne the contract was increased from 50 to 100 tons, with a promise of more to follow, and the Vimy is now flying every day in an effort to cope with the goods traffic.

The first direct flight in one day to Prague was made on Saturday, when one of the Vickers Vulcans of the Instone Air Line, piloted by Mr. Barnard, left Croydon at 9.30 a.m., and, stopping at Brussels, Cologne and Eger, arrived at Prague at 7.30 p.m., the actual flying time being only 7¼ hours. I understand that the flight was made to map out the route, and that at each stop the aerodromes were inspected.

Sir Samuel Hoare, the Minister of State for Air, accompanied by Lady Hoare, travelled to Gothenburg in a special Daimler D.H.34, which had been equipped in a luxurious fashion for inspection at the Gothenburg exhibition. The ordinary seats had been removed, and four specially large armchairs, with air cushions, had been installed, two facing forward and two at the forward end of the cabin facing towards the rear of the machine. Between the two sets of chairs two tables of polished mahogany had been installed, and two electric reading lamps were placed on these tables, while the wireless telephones had been extended into the cabin for the occasion. This machine will no doubt further enhance British air prestige at the exhibition.

On Friday morning, Major Hemming, piloting the D.H.37, left the aerodrome at the early hour of 5.39 a.m. *en ronte* for Rotterdam, to take part in the race from Rotterdam to Gothenburg. He carried as passenger Princess Lowenstein, and Major Tymms of the Air Ministry also travelled with him as navigator. Capts. Macmillan and Malins were also scheduled to leave the same morning, but after getting away from Bristol they had carburettor trouble, and had to return, eventually leaving Croydon on Saturday morning and flying to Gothenburg in a single day. Major Hemming arrived back from Gothenburg on Monday morning in time for the Aerial Derby.

On Monday Paul Sprecht and his band of 17 performers flew to Paris, complete with their instruments, in two Handley Page aeroplanes, though it is not known as to whether they played some of their famous foxtrots on the way.

Monday evening, August 13, 1923

THE Aerodrome has settled down once more after the excitement of the Aerial Derby. Speaking to one of the C.A.T.O.'s on the question of how far the race had interfered with the regular traffic, I was informed that this year there had been remarkably little interference. In fact, there were no complaints whatever from cross-Channel pilots other than those with regard to their being unable to see the race.

The boom in passenger traffic still continues at a high summer level. Handley Page Transport continue to create new records in passenger-carrying. On Saturday last no fewer than 95 people were flown on the Handley Page machines between London and Paris. This month, so far, they have carried a total of 700 people. These figures are all the more remarkable when it is remembered that Handley Page have only three machines at their disposal.

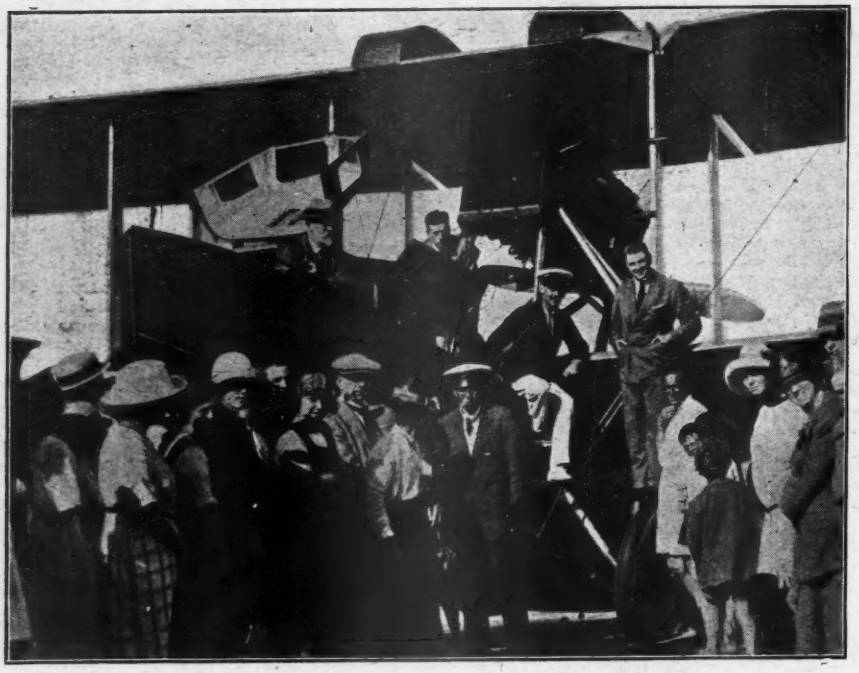
On other lines, too, there is no lack of traffic. The Daimler Airway could comfortably fill at least one machine per day between London and Berlin, and seats on the Berlin service are generally booked up for days before the machines go. During this last week telegrams have been received from various parts of the country asking for seats to be reserved on the Berlin machine, and as far ahead as Thursday next all available seats are booked up.

On the Instone Line to Cologne goods are looming largely in the traffic, although there is, of course, a goodly number of passengers.

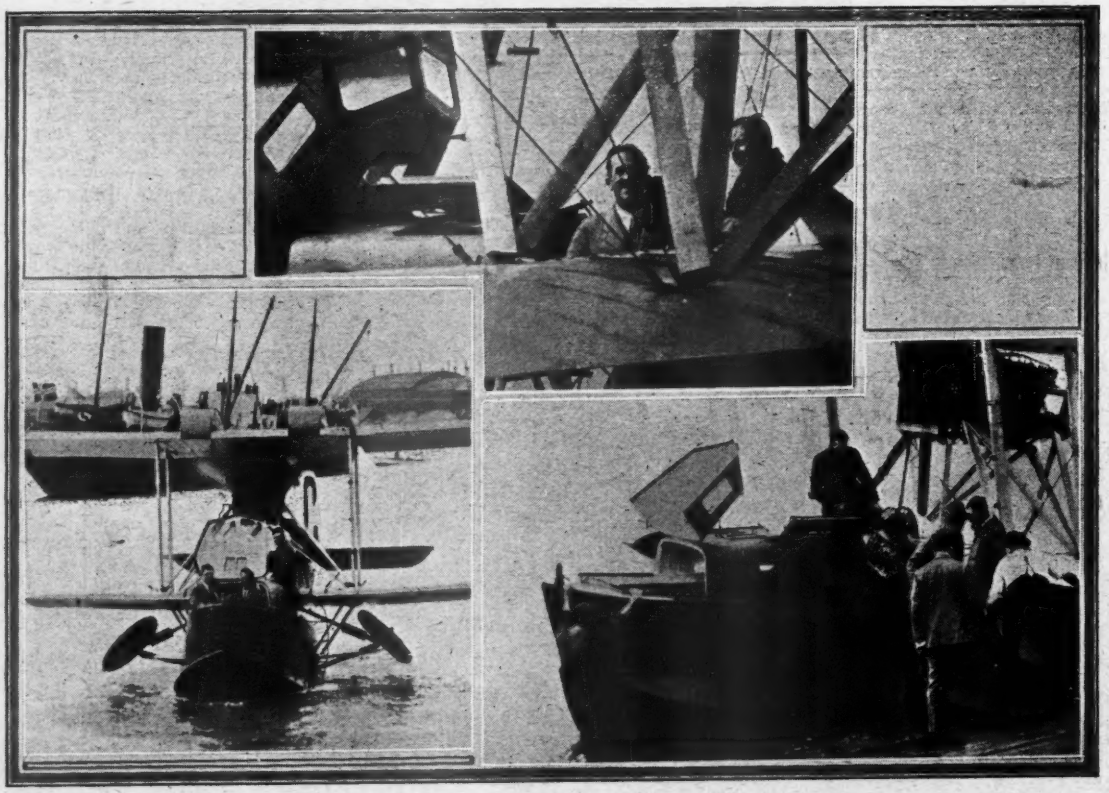
The regular service to Prague is due to begin running this week, and there are also rumours that the Handley Page extension to Zurich is to be started very shortly—an O.400 being scheduled to make an experimental trip this week. I understand there is some difficulty as yet with the French Customs authorities, which prevents the Southampton-Channel Isles service being run on to Cherbourg. As it is, however, the journey to the Channel Isles from London will be cut down from between 9 and 10 hours to 3½ hours from leaving Waterloo by train for Southampton to arriving in the Channel Islands by flying-boat.

Mr. H. Shaw, who has for some time been controlling the destinies of the Shell Mex Company on the aerodrome with such success, has been appointed to the control of the entire aviation side of Shell Mex, a well-merited advancement. The Shell Company are to be congratulated upon securing such a popular figure as Mr. Shaw to control their aviation department.

A Stahlwerk Mark R.III lands in Unter den Linden: On July 7 this machine was successfully landed in front of the Opera House in Berlin.



The Supermarine "Sea Eagle" at Sea View, I. of W.: The machine appears to have attracted considerable attention. On the right, standing on the wheel, is Mr. Hubert Scott-Paine, managing director of the Supermarine Works. Next to him is seen Lord Apsley, M.P., and behind him Capt. Biard, the Supermarine pilot.



GENERAL BRANCKER "AT SEA": On Sunday, August 5, Major-General Sir Sefton Brancker paid a visit to the Supermarine Works at Southampton, and was taken for a flight in the new "Sea Eagle." In the upper photograph, the Director of Civil Aviation is seen, with Capt. Biard, in the cockpit. On the right General Brancker is just stepping ashore from the machine, and on the left is shown the central portion of the "Sea Eagle" as she appears when at rest on the sea. Note the wheels lifted clear of the water. On August 14 a flight was made, also with General Brancker as passenger, from Southampton to Cherbourg, over the new route which is to be opened shortly.

FLIGHT

THE ROYAL AIR FORCE

London Gazette, August 7, 1923.

General Duties Branch

Flight Lieut. N. H. Jenkins, D.F.C., D.S.M., is granted permanent commn. in rank stated; Aug. 8. Flying Offr. W. F. Langdon is granted short service commn. as Pilot Offr. on probation with effect from and with seny. of July 23. The following Pilot Officers are promoted to the rank of Flying Officer:—A. R. M. Brain; July 15. H. K. Waterfield; July 28. Group Capt. R. Gordon, C.B., C.M.G., D.S.O., is placed on half-pay, scale A; Aug. 8.

The following Flying Officers are transferred to Reserve, Class A:—C. H. Baker; Aug. 3. C. M. McClean; Aug. 5. Flying Officer J. V. Collins is placed on the ret. list and is granted the rank of Capt.; Aug. 8. The following relinquish their temp. commns. on return to Army duty (Aug. 1):—*Flight Lieuts.*—A. J. W. Barmby, O.B.E. (Capt., Green Howards), L. W. Hall (Lieut., Border Regt.), R. G. Home (Capt., h.p. list), J. A. M. Lang, O.B.E. (Capt., Sherwood Foresters). *Flying Officers.*—W. B. Clarke, M.C. (Lieut., R.G.A.), J. A. Mansfield, M.C. (Lieut., R. Irish Fus.).

Stores Branch

Flight Lieut. F. O. Hall is granted permanent commn. in rank stated for accountant duties; Aug. 8. Flying Officer V. S. Holbrook is placed on ret. list on account of ill-health; Aug. 8. Flying Officer P. E. D. Addis relinquishes his short service commn. on account of ill-health contracted on active service and is granted rank of Capt.; Aug. 8.

Medical Branch

G. Clark, M.B., is granted short service commn. as Flying Officer with effect from, and with seny. of, July 19.

Reserve of Air Force Officers

Class A.—The following are granted commns. on probation in the rank stated in the General Duties Branch (Aug. 7):—

Flying Officers.—K. W. Bransby, H. W. Owen.

Pilot Officers.—F. C. Marriott, E. D. Trask, R. J. Weaver.

Class A.A.—The comm. of Pilot Officer on probation W. J. Beaumont is terminated on cessation of duty; July 4.

ROYAL AIR FORCE INTELLIGENCE

Appointments.—The following appointments in the R.A.F. are notified:—

General Duties Branch

Air Commodores: E. E. Borton, C.B., C.M.G., D.S.O., A.F.C., to Headquarters R.A.F., Cranwell. 15.8.23, on appointment as Air Officer Commanding. F. C. Halahan, C.M.G., C.B.E., D.S.O., M.V.O., to Half Pay List. 7.7.23.

Group Captains: R. Gordon, C.B., C.M.G., D.S.O., to Half Pay List. 8.8.23. A. Fletcher, C.M.G., C.B.E., M.C., to No. 1 Stores Depot, Kidbrooke. 15.8.23, to command, with effect from 1.9.23.

Wing Commander H. R. Busteed, O.B.E., A.F.C., to Headquarters, Coastal Area. 1.9.23, for duty in H.M.S. "Furious" on commissioning.

Squadron Leaders: T. B. Meyer to Aeronautical Committee of Guarantee, Germany. 30.7.23. J. Everidge, M.C., to Electrical and Wireless School, Flowerdown. 15.8.23. F. W. Stent, M.C., to No. 2 Flying Training School, Duxford. 1.9.23. E. J. C. Roberts to Mechanical Transport Repair Depot, Shrewsbury. 27.8.23, on transfer to Home Establishment.

Flight Lieutenants: E. C. Emmett, M.C., D.F.C., to Armament and Gunnery School, Eastchurch. 15.8.23. F. Beaumont to R.A.F. (Cadet) College, Cranwell. 15.8.23. L. J. MacLean, M.C., to Superintendent of Reserves, Northolt. 24.8.23. C. G. Wigglesworth, A.F.C., to R.A.F. Depot. 26.7.23, on transfer to Home Establishment.

Flying Officers: E. L. Barrington, M.C., D.F.C., to R.A.F. Depot (Non-effective Pool). 1.7.23, on transfer to Home Estab. M. F. Morris and F. H. Cashmore, both to R.A.F. Depot (Non-effective Pool). 1.7.23, on transfer to Home Estab. A. P. Marchant, M.B.E., D.S.M., to Armament and Gunnery School, Eastchurch. 15.8.23. G. S. Taylor, to R.A.F. Base, Calshot. 1.9.23. R. R. Money to R.A.F. Base, Leuchars. 10.8.23. C. L. Lowe, A.F.C., to School of Army Co-operation, Old Sarum. 10.8.23. A. E. Connolly to R.A.F. Depot, Uxbridge, on appointment to a short service commission. 3.8.23. J. R. Brown to R.A.F. Depot, Uxbridge, on appointment to a short service commission. 4.8.23. J. B. Allen to Inspector of Recruiting, Bristol. 15.8.23. F. W. van Blommestein to R.A.F. Base, Gosport. 9.8.23. C. A. B. B. Wilcock, A.F.C., to Headquarters, Coastal Area. 7.8.23, on transfer to Home Estab. C. E. F. Arthur to No. 1 School of Technical Training (Boys), Halton. 26.8.23. W. N. Lancaster to No. 1 School of Technical Training (Boys), Halton. 7.8.23.

Pilot Officer E. S. Burns to R.A.F. Base, Leuchars. 10.8.23.

◈ ◈ ◈ ◈

R.A.F. MEMORIAL FUND

A MEETING of the Executive Committee was held at 7, Iddesleigh House, Caxton Street, on July 25, when the following were present: Lord Hugh Cecil, P.C., M.P. (Chairman), Dame Helen Gwynne Vaughan, Mrs. Barrington-Kennett, Mrs. L. M. K. Pratt-Barlow, Sir Charles McLeod, Air Vice-Marshal J. F. A. Higgins, Air Vice-Marshal Sir Geoffrey Salmond, Air Vice-Marshal Sir A. V. Vyvyan, Air Commodore H. R. M. Brooke-Popham, Air Commodore E. R. Ludlow-Hewitt, Lieut. Commander H. E. Perrin, and Mr. W. S. Field.

The amount of grants sactioned at the previous meeting on June 13, 1923, amounting to £473 0s. 11*d.*, was approved, the number of cases dealt with being 68.

Regarding the War Memorial, erected by the Committee on the Victoria Embankment, which was unveiled by H.R.H. the Prince of Wales, K.G., on July 16, the Committee desired the Chairman to send their grateful thanks both to H.R.H. the Prince of Wales and Group Captain H.R.H. the Duke of York for their kindness in attending the ceremony, and further letters of thanks were directed to be sent to Sir Reginald Blomfield, the architect, and Mr. Reid Dick, the sculptor.

The question of the possibility of the sale of small models of the memorial, in metal or wood, was considered, and steps will be taken as soon as possible to ascertain if there is any demand for such and if any firm will take up the matter of providing such models at a moderate price.

Air Vice-Marshal Sir Geoffrey Salmond reported that he hoped the proposed extension at Vanbrugh Castle School, Blackheath, whereby an additional 12 boys could be accommodated, would be taken in hand about the beginning of August, and it was hoped that the extension would be finished towards the end of September.

Mrs. L. M. K. Pratt-Barlow and Lieut.-Commander H. E. Perrin were unanimously selected for duty on the Service Funds Advisory Council, which has been started by Earl Haig to prevent overlapping in the Service charities.

◈ ◈ ◈ ◈

AIRCRAFT BOMBING TRIALS OFF PORTSMOUTH

THESE trials, held last week off Portsmouth with a view to ascertaining the average accuracy that might be expected from high bombing aircraft, can hardly be written down as either convincing or successful. The target was the "Agamemnon," which was controlled entirely by wireless from the "Truant," the only people on board being some special observers in armoured conning-towers. Last year the target ship travelled in similar trials at 12 knots per hour, and kept a direct course. This year the speed was increased by 2 knots per hour, and a zigzag course was steered on a general line of advance. Very bad weather, however, took a hand in the operations, causing the trials to be postponed on the first day.

Next day, when the first two items on the programme were carried out, it was still very unfavourable, high wind and clouds prevailing. Both tests were tried out at 8,000 ft., the first being four D.H.9 A machines, individual bombing, with eight runs; the second two D.H.9 A machines, individual bombing, also with eight runs. Only light practice bombs were used, which emit a puff of smoke upon contact. Owing to the wind and the consequent "sea horses," it was therefore very difficult, if not impossible, to spot the hits with accuracy.

The first official report, however, records one direct hit, eight within 15 ft. and nine within 50 ft. Further trials for the day had to be abandoned owing to the persistence of heavy clouds.

The next day's work was carried on under somewhat more favourable conditions, the attacks being delivered in formation at a height of 14,000 ft. At the moment of going to press we have no note of the official results. Owing to the great heights, photographic work on the tests was hopeless.

Capt. A. J. Davis, commanding H.M.S. "Excellent," Portsmouth School of Gunnery, was in charge of the operations, while among others present were Air Vice-Marshal Higgins, commanding the Inland Area R.A.F.; Air Commodore Dowding, Chief of Staff, R.A.F.; Capt. B. St. G. Collard, Director of the Gunnery Division, Naval Staff; Admiral Sir John De Roebeck, commanding Atlantic Fleet; and the Commander-in-Chief at Portsmouth. The foreign air attachés present were Capitiane de Corvette Sablé (France), Lieut.-Com. Shine Takasu (Japan), Commander T. H. Towers (United States). The following represented the various navies: Capt. Luigi Bianchi (Italy), Capitiane de Frigate Comte de Ruffi de Ponteves-Gevauden (France), Colonel R. Manton (Belgium), Rear-Admiral Tamaki Tosu (Japan), Capiten de Corbeta Don Jose Iglesias Abelaire (Spain), Commander A. de Bahr (Sweden), Capt. S. Scott-Hansen (Norway), Col. Don Antonesco (Roumania), Capt. George Panas (Greece), and Capt. Don Diegi C. Garcia (Argentine).

IMPORTS AND EXPORTS, 1922-1923

AEROPLANES, airships, balloons and parts thereof (not shown separately before 1910). For 1910 and 1911 figures see "FLIGHT" for January, 25, 1912; for 1912 and 1913, see "FLIGHT" for January 17, 1914; for 1914, see "FLIGHT" for January 15, 1915; for 1915, see "FLIGHT" for January 13, 1916; for 1916, see "FLIGHT" for January 11, 1917; for 1917, see "FLIGHT" for January 24, 1918; for 1918, see "FLIGHT" for January 16, 1919; for 1919, see "FLIGHT" for January 22, 1920; for 1920, see "FLIGHT" for January 13, 1921; for 1921, see "FLIGHT" for January 19, 1922; and for 1922 see "FLIGHT" for January 18, 1923.

	Imports		Exports		Re-Exports	
	1922.	1923	1922.	1923.	1922.	1923
	£	£	£	£	£	£
Jan. ..	1,152	466	76,552	60,079	23	280
Feb. ..	567	641	69,129	120,236	1,100	3,040
Mar. ..	1,471	589	166,607	71,945	100	689
April ..	3,846	8,508	139,995	167,757	5,880	462
May ..	2,416	845	167,999	55,427	4,254	728
June ..	816	1,433	129,137	141,381	14,530	1,410
July ..	1,039	192	24,405	62,025	—	1,334
	11,307	12,674	773,824	678,850	25,887	7,943

SOCIETY OF MODEL AERONAUTICAL ENGINEERS
(London Aero Models Association)

A VERY successful meeting was held on Wimbledon Common last Saturday, two competitions being run off. The first of these, the "Felix Kelly" Challenge Cup Competition for compressed air models, was won by Mr. D. A. Pavely, with an exceptionally fine flight of 68⅘ secs. Mr. Cook came second, with 26 secs., the other competitors being unable to get their machines off the ground.

The other competition, a special one for cash prizes, was also won by Mr. Pavely, Mr. Houlberg being second with his twin-pusher.

Friday, August 24, has been fixed as the date for a Council Meeting at Headquarters, and there will, in consequence, be no ordinary meeting on that date.

A. E. JONES, Hon. Sec.

New Air Mails to Germany

COMMENCING Monday last, August 13, letters may be posted for despatch by through air mail from London to Bremen, Hamburg and Berlin. The air fee is 3*d. per oz.* Parcels cannot at present be sent. The mails are closed at the General Post Office in London at 6 a.m. each weekday. Letters forwarded by the new service should be delivered in Bremen, Hamburg and Berlin on the morning after despatch from London, or, if the express fee (6*d.*) is prepaid, in addition to the postage and air fee, on the evening of the day of despatch from London.

By connecting with night mail trains from Bremen, Hamburg and Berlin, the service offers an advantage for letters for more distant destinations, notably for Copenhagen and the rest of Denmark (where delivery should normally be obtained on the day following despatch from London), for Norway (except the West) and for Sweden.

Letters which can be posted in time for inclusion in ordinary mails due to be forwarded to the Continent by boat the same night will not be benefited.

The latest times of posting for the new air mails in London and the Provinces is the same as for the first air mails to Holland, and can be ascertained by enquiry at any head post office. The conditions of posting are as shown on p. 1 of the July, 1923, edition of the Air Mail Leaflet, a copy of which can be obtained at any head or branch post office.

William Beardmore and Co., Ltd.

AT the annual meeting of the company on August 9 it was stated during the speech of the chairman, Lord Invernairn of Strathnairn, that the company have perfected the design and developed the manufacture of large-powered engines for aeronautical purposes, and have now received orders for a considerable number of engines to their design. Specially interesting had been the success which had attended their development of a crude oil engine for aero work, and he was hopeful of considerable future business in that product.

Surveying in Burma from the Air

FROM Rangoon it is announced that the Government of Burma is beginning, in November, to conduct forest surveys by seaplanes in malarial and not easily accessible areas. A survey is to be made in the Irrawaddy delta. It is in the hands of Mr. R. C. Kemp, Chief Inspector of Aircraft in India. The seaplanes will return daily to Rangoon.

The British Aircraft Industry

THIS is the title of a Trade Directory which has been prepared and issued by the Society of British Aircraft Constructors in connection with the International Aero Exhibition at Gothenburg. The Trade Directory is published in two versions, in one of which the introductory article is in English, Swedish and German, while in the other it is in English, French and Spanish. This article outlines the reasons for the present position of pre-eminence occupied by British aircraft, pointing out the rigorous inspection and the very exacting demands for strength and durability imposed. The standards to which British aircraft constructors have to work are higher, and more rigorously enforced, than those, probably, of any other country, and the result has been that already the term "British aircraft" conveys much the same impression of high quality as does, and has done for generations, the older term "British shipbuilding."

Part I of the Trade Directory itself contains the title, address, telephone number and telegraphic address, etc., of aircraft and aircraft engine firms, numbering 24 in all; while Part II is devoted to firms manufacturing parts, fittings and materials. This section includes 31 firms.

The Directory is published in a style which is in keeping with the status of the firms with which it deals, and should convey to all into whose hands it falls a good impression, worthy of the British aircraft industry as it exists at the present day. The Society of British Aircraft Constructors is to be congratulated on the production of its first official Trade Directory, and it is to be hoped that when the next comes to be published it will be many times the size of the present.

Second in Aerial Derby Handicap

IN our account of the Aerial Derby last week the caption under the photograph on p. 470 stated erroneously that H. H. Perry was third in the Aerial Derby Handicap. This was, of course, wrong, Mr. Perry being second, as was correctly indicated both in the table of times and in the text of the article. We regret the "slip," which is no doubt accounted for by the rush of getting out a large issue in a "short" week.

AERONAUTICAL PATENT SPECIFICATIONS

Abbreviations: cyl. = cylinder; I.C. = internal combustion; m. = motor
The numbers in brackets are those under which the Specifications will be printed and abridged, etc.

APPLIED FOR IN 1922

Published August 16, 1923

10,843. E. R. MITTON. Helicopters. (200,886.)
17,247. E. G. PYNE and B. J. S. DODRIDGE. Bomb releasing gear. (201,004.)

If you require anything pertaining to aviation, study "FLIGHT'S" Buyers' Guide and Trade Directory, which appears in our advertisement pages each week (see page xviii).

NOTICE TO ADVERTISERS

All Advertisement Copy and Blocks must be delivered at the Offices of "FLIGHT," 36, Great Queen Street, Kingsway, W.C. 2, not later than 12 o'clock on Saturday in each week for the following week's issue.

FLIGHT

The Aircraft Engineer and Airships

36, GREAT QUEEN STREET, KINGSWAY, W.C. 2.
Telegraphic address: Truditur, Westcent, London.
Telephone: Gerrard 1828.

SUBSCRIPTION RATES

"FLIGHT" *will be forwarded, post free, at the following rates:*—

UNITED KINGDOM	s.	d.	ABROAD*	s.	d.
3 Months, Post Free...	7	7	3 Months, Post Free...	8	3
6 " " ...	15	2	6 " " ...	16	6
12 " " ...	30	4	12 " " ...	33	0

These rates are subject to any alteration found necessary under abnormal conditions and to increases in postage rates.

* *European subscriptions must be remitted in British currency*

Cheques and Post Office Orders should be made payable to the Proprietors of "FLIGHT," 36, Great Queen Street, Kingsway, W.C. 2, *and crossed London County and Westminster Bank, otherwise no responsibility will be accepted*

Should any difficulty be experienced in procuring "FLIGHT" *from local newsvendors, intending readers can obtain each issue direct from the Publishing Office, by forwarding remittance as above.*